ABSTRACT

BACKGROUND

Breast carcinoma is a heterogenous disease . It is the most common malignant tumor and the leading cause of carcinoma death in women. It accounts for 23% of all cancers in women globally. Infiltrating ductal carcinoma is the most common type of invasive breast carcinoma (75–80% of all mammary invasive carcinomas). Functional lymphatics at the tumor margins are responsible for lymphatic metastasis . Ability of the tumor to invade the adjacent tissue has been proposed to be an important prognostic factor in many recent articles . The prognostic significance of adipose tissue invasion at the tumor margins has not been evaluated fully .Marginal ATI may lead to a larger contact area between cancer cells and the peritumoral functional lymphatic endothelium increasing the chances for lymphovascular invasion . Present study is intended to evaluate the adipose tissue invasion at tumor margins, lymphovascular invasion and its prognostic significance in carcinoma breast.

METHODS

The present study was a prospective study conducted at the Department of Pathology, Madurai medical college during the period of July 2015 to July 2017. A total sample of 100 cases of breast cancers, diagnosed as invasive ductal carcinoma NOS were analyzed during this period . Clinical and morphological details of cases were recorded according to the proforma which included patients name ,age, biopsy number, clinical history,investigations and treatment

done,gross description , histological factors , hormone receptor status , st. gallens, 10 year survival rate prediction by PREDICT . The observations were compared with other studies and inferences drawn.

RESULTS

In this study conducted on 100 cases ,74 % cases showed presence of ATI . Out of the total cases of adipose tissue invasion 49 % belonged to the age group of 41-60 years . 54 % cases of adipose tissue invasion had Bloom-Richardson grade – II . 58 case out of 100 showed lymph node metastasis .48.6% of node positive cases had adipose tissue involvement . Statistically significant association was found between these factors(p value : 0.0060). 25 % cases with adipose tissue invasion showed positivity for estrogen receptorand showed a significant association with p value 0.0151. No statistical correlation was observed between progesterone receptor status and adipose tissue invasion.100% cases of ATI belonged to average to high risk group according to St Gallen criteria .Case without ATI showed a higher mean 10 year survival rate compared to cases with ATI . 45 % of the present study cases studied showed lymphovascular invasion .

CONCLUSION

Cases which are positive for ATI showed significant increase in lymphnode metastasis and a lower 10 years survival rate.Thus its presence indicates tumour aggressiveness and adverse outcome . Marginal adipose tissue invasion and lymphovascular invasion can be used together as a prognostic

marker to predict the tumor aggressiveness and to formulate therapeutic strategies . More studies and investigations are required for substantiating the significance of ATI and its influence in the prognosis of breast cancer.

KEYWORDS

Breast carcinoma, ATI – Adipose tissue invasion , LVI – Lymphovascular invasion